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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,766	01/21/2004	Xaver Pfab	080437.53095US	2549
23911	7590	11/04/2004	EXAMINER	
CROWELL & MORING LLP INTELLECTUAL PROPERTY GROUP P.O. BOX 14300 WASHINGTON, DC 20044-4300			TIBBITS, PIA FLORENCE	
			ART UNIT	PAPER NUMBER
			2838	

DATE MAILED: 11/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/762,766

Applicant(s)

PFAB ET AL.

Examiner

Pia F Tibbits

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/21/04.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

**DETAILED ACTION**

***Priority***

1. This application is a continuation of PCT/EP02/06532.

***Drawings***

2. The drawing figure is objected to under 37 CFR 1.83(a) because it fails to show the conventional names for the elements shown in the figure with non-conventional symbols. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "on-board power supply", the "demand signal", the "supply demand", etc. must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a

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drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the examiner does not accept the changes, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

4. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. For example, "the charging current is permitted to fall briefly or because of inertias and/or dead times of the controlling below the limit value" and "a MOSFET whose heating resistance can be adjusted by controlling a control input of the transistor. However, in contrast to the teaching of German Patent Document DE 197 28 589 C1, the adjustment of the resistance is used for the adjustment of the charging currents" are idiomatic.

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter: "on-board power supply"; "detection device", etc. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction is required.

6. Applicant is reminded to use consistent language throughout the disclosure in order to facilitate finding support for the recited limitations, as well as to provide proper antecedence for all claimed limitations.

### ***Claim Objections***

7. Claims 1, 6 are objected to because of the following informalities:

Claim 1: "a (motor) vehicle" second occurrence to be replaced by ---the vehicle".

Claim 6: "the additional heater" lacks antecedence.

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"detecting the charging condition of the vehicle battery which is connected with the vehicle battery" needs to be corrected.

The above are but a few specific examples of claim objections. Applicant to review all claims.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

9. Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. The claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

Claim 1: a "vehicle battery" and a "generator" are recited in claim 1 and described in the figure. However, it is not clear what an "electric on-board power supply" is. To continue prosecution it was assumed that the generator is the "electric on-board power supply" that monitors a terminal voltage across the battery in relation to a load current flowing from the battery to an electric load circuit.

"charging current" is not clear since according to the figure power flows from the highest voltage (battery or generator) to the load.

Claim 2: "the additional consuming device is not supplied" is not clear since there is no disconnecting device to stop the supply of power.

Claim 3: "the additional consuming device is supplied with power by the generator" is not clear since there is no disconnecting device to stop the supply of power from the battery.

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Claims 4, 5: the use of "and/or" makes the claim language confusing because it is not clear what applicant is actually claiming. Furthermore, applicant is reminded that "or" should only be used with alternate terms, e.g., rod or bars, etc.

The above are but a few specific examples of indefinite and functional or operational language used throughout the claims, and are only intended to illustrate the extensive revision required to overcome the rejections under 35 USC 112, second paragraph. The above-mentioned corrections therefore, are in no way a complete and thorough listing of every indefinite and functional or operational language used throughout the claims. Applicant is required to revise all of the claims completely, and not just correct the indefinite and functional or operational language mentioned. The following art rejections are given in view of the above rejections of claims under 35 USC 112, second paragraph. Therefore, the following art rejections are applied only as far as the claims are understood in view of rejections made under the second paragraph of 35 USC 112.

***Claim Rejections - 35 USC § 103***

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claim 1, as best as it can be understood at this time, is rejected under 35 U.S.C. 103(a) as being unpatentable over **Taniguchi et al.** [hereinafter Taniguchi][4290109].

Taniguchi discloses in figures 1-5 a method and apparatus of controlling the charging of a vehicle battery 1, the vehicle battery 1 being connected with a generator 2; the generator supplies power to an additional consuming device 6. A controller 13 receives input from a first voltage detector 9 connected to the battery 1 and a second voltage detector 10 connected to the load circuit 6. The first voltage detector 9 detects an instantaneous terminal voltage  $V_s$  across battery 1 to produce an output signal indicative of

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the terminal voltage  $V_S$ . The second voltage detector 10 detects a terminal voltage  $V_L$  across the electric load circuit 6 to produce an output signal indicative of the terminal voltage  $V_L$ . Each of the signals is applied to the computer 13 in response to a control signal issued from the computer 13 through a control bus 13c. The controller 13 monitors whether the load current  $I_L$  is larger than a maximum allowable current  $I_m$  flowing through the conductor 4, and whether battery reference terminal voltages  $V_A$ ,  $V_B$  are respectively determined to be higher than a critical terminal voltage across the battery 1 caused by continuous supply of an excessive load current from the battery 1 to the load circuit 6. If the measured battery terminal voltage  $V_S$  is higher than the first reference terminal voltage  $V_A$ , the controller CPU issues no signal [see also in fig.2 the program step 113]. The controller CPU reruns the program at predetermined time intervals until the measured terminal voltage  $V_S$  drops below the first reference voltage  $V_A$  [see also in fig.2 the program step 111]. With regard to the limitation of having a controller monitor the charging of the battery: it is an inherent function of a vehicle charger controller to continuously monitor the battery charge, and MPEP 2100 states that the disclosure of a limitation may be expressed, implicit or **inherent** [see also the abstract, column 1, lines 7-11; column 2, lines 30-48; column 3, lines 6-24 and 52-55; column 4, lines 16-25 and 43-48; column 6, lines 16-25].

With regard to the patent using an input from a temperature sensor located near the battery to detect an ambient temperature of the battery: eliminating the input from the battery temperature sensor, cited in the Taniguchi reference, applicant neither extends the life of the batteries being charged, nor makes it easier to fully charge a battery, which is the object of his invention, as cited in the disclosure. Therefore it would be obvious to one skilled in the art at the time the invention was made that the elimination of an element and its function in a combination is an obvious expedient if the remaining elements perform the same functions as before. See *In Re Karlson*, 136 USPQ 184 (CCPA 1963), *In Re Wilson*, 153 USPQ 740 (CCPA 1967), and *Ex Parte Rainu*, 168 USPQ 375 (PTO Bd. of App. 1969).

With respect to the method claim 1, as best as it can be understood at this time: the method steps will be met during the normal operation of the apparatus described above.

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13. Claim 2, as best as it can be understood at this time, is rejected under 35 U.S.C. 103(a) as being unpatentable over **Taniguchi**, as described above, in view of **Lendrum et al.** [hereinafter Lendrum][5327068].

Taniguchi discloses a method and apparatus of controlling the charging of a vehicle battery, the vehicle battery being connected with a generator; the generator supplies power to an additional consuming device. A controller receives input from a first voltage detector connected to the battery and a second voltage detector 10 connected to the load circuit, and issues an output signal according to preprogrammed instructions. The patent discloses that when the battery charges  $V_s$  drops below the second reference voltage  $V_b$ , due to malfunction of the generator, the computer issues a warning. Taniguchi does not disclose the additional consuming device is not supplied with electric power by the generator when the charging current is lower than the limit value.

Lendrum discloses a battery protection system for an engine-driven system having an engine, a battery to provide starting power for the engine, a generator 16 to generate a charging current when engine-11 is running, a main switch having a first condition in which the engine is operative and a second condition in which the engine is inoperative, wherein the switch disconnects a load circuit to protect the battery from being discharged below a predetermined minimum value sufficient to start the engine when the generator 16 does not generate a charging current/limit value=0 [see also the abstract; column 3, lines 8-22]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Taniguchi's apparatus and include a battery protection system, as disclosed by Lendrum, in order to protect the battery from being discharged below a predetermined minimum value sufficient to start the engine when the generator does not generate a current.

14. Claims 6 and 7, as best as they can be understood at this time, is rejected under 35 U.S.C. 103(a) as being unpatentable over **Taniguchi**, as described above, in view of **Komurasaki et al.** [hereinafter Komurasaki][4755734].



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Taniguchi discloses a method and apparatus of controlling the charging of a vehicle battery, the vehicle battery being connected with a generator; the generator supplies power to an additional consuming device. A controller receives input from a first voltage detector connected to the battery and a second voltage detector 10 connected to the load circuit, and issues an output signal according to preprogrammed instructions. Taniguchi does not disclose the generator power output having a threshold.

Komurasaki discloses in figures 1-3 a voltage regulator 3 that responds to the voltage at terminal S of the battery 4 to regulate the power/voltage output to a predetermined value/threshold. The patent also discloses that when the regulator is disconnected from the detection terminal S of the battery, the battery and other electric loads of the vehicle are applied with a second preset voltage, which is higher than the battery detection voltage. Therefore, the battery tends to be overcharged, resulting in a shortened life, and the power consumption of the other electric loads increases [see also column3, lines 22-30]. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify Taniguchi's apparatus and include a voltage regulator to regulate the power/voltage output of the generator to a predetermined value/threshold, as disclosed by Komurasaki, in order to avoid battery overcharge.

As to claim 7, Taniguchi clearly discloses detecting the charging condition of the vehicle battery and the detector providing an output to the controller [see also remarks for claim 1 above, and fig.1],

With respect to the method claims 8-13, as best as they can be understood at this time: the method steps will be met during the normal operation of the apparatus described above.

15. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the

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examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, as best as it could be understood at this time. The prior art cited in PTO-892 and not mentioned above disclose related apparatus, as best as it could be understood at this time.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Pia Tibbits whose telephone number is (571) 272-2086. If unavailable, contact the Supervisory Patent Examiner Mike Sherry whose telephone number is (571) 272-2084. The Technology Center Fax number is (703) 872-9306.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PFT

October 27, 2004

Pia Tibbits

Primary Patent Examiner